Solution:	Ewon Flexy
Country:	Netherlands
Company:	Moekotte BV
Summary:	Modernising electronic communications infrastructure to provide multiple capabilities nationwide

The effects

- Special consideration was given to the needs of the water industry, whose sites often had poor cellular coverage.

- Disruption to water industry operations and existing SCADA systems was minimised throughout the project.

- Ewon Flexy gateways were used to integrate pagers into the system, as water engineers like their easy portability.

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"With analog telephone lines being phased out across the country, a solution using Ewon Flexy was developed so that pagers could still be used at waterworks and other sites where cellular connections were weak"

Moekotte BV

Dutch water engineers upgrade pagers to 21st century performance

The Dutch government has set the goal of acquiring a leading position in Europe in the development of the electronic superhighways. As such it is modernising its entire communications infrastructure so that it has capabilities for 5G, fibre, mobile, digital, VOIP (voice over internet protocol) etc. right across the country.

However, the phasing out of older technologies has given rise to some issues. For instance, many water treatment plants use old-fashioned, but well proven and reliable analog telephone lines, to connect the alarm functions of plant SCADA (supervisory control and data acquisition) systems, with pagers carried by site engineers and managers. But, effective from September 2019, these telephones lines are being phased out, so there is a need to find a replacement technology.

The obvious answer would appear to be based on the use of modern cellular connections to provide a solution based on SMS text messaging. However, survey after survey revealed that cellular coverage is either not available or of very poor quality across many of the country's water treatment plants.

In an attempt to find the best possible solution, several of the Dutch water utility companies turned to control engineering company Moekotte BV.

HMS

Founded over 50 years ago and with offices across the Netherlands, Moekotte is a leader in the fields of industrial automation, control panel building and electrical engineering. The company works across a wide range of industries from environmental engineering, chemicals manufacture, paper and food to pharmaceuticals, water boards and utilities. In fact, Moekotte's mission statement is to make life, both at home and at work, more pleasant, effective and sustainable through the application of smart technologies.

Moekotte's engineers translate complicated technology into practical and effective solutions to real world requirements. They are always monitoring new developments in control technology and start every project by taking the time to fully understand the clients' current and likely future needs. Various solutions are identified, costed and discussed with the client, to ensure the optimum result is identified before detailed design and installation begin.

To make the project succeed at the water plant, a few objectives were crucial. The first objective was to minimize interference in the daily plant operation. Also, the existing SCADA system with its connectivity and communications needed to remain or improve. Next to that, the use of pagers is mandatory in means of instantly alert personnel in case of alarms. As a part of this, the alarms need to be sent to several people at the same time. The last demand was that the pagers need to be able to pick up other messages as well as alarms.

Naturally there was a great emphasis on developing a cost-effective solution, as well as improving flexibility and capability.

After considering all the issues, Moekotte suggested a solution based on the Ewon Flexy 205 made by HMS Networks. Incoming alarms nowadays will be sent over the internet using the SOAP protocol (Simple Object Access Protocol), instead of the analogue telephone lines. The Ewon Flexy 205 makes it possible to run a custom built script which converts incoming OPC UA messages towards the outgoing SOAP protocol. These SOAP messages can be received by the pagers.

A combination of Ewon's Flexy 205 and Moekotte's engineering skills has resulted in several benefits for the Dutch water utilities:

• Minimal intrusion on daily operational processes
• Communication and connectivity are maintained as before
• No major changes to the SCADA system were needed
• The existing pagers are still in use for informing personnel of critical alarms
• Provides a scalable solution, allowing deployment on other installations of the Dutch Water Utilities

Learn more on www.moekotte.nl

The Ewon Flexy is a multi-purpose IIoT gateway with VPN security-certified connectivity that allows plant operators to monitor and collect vital KPIs (key performance indicators) for alarm management, performance analysis and predictive maintenance. Despite its incredible capabilities, it can be installed and commissioned in minutes without disruption to plant operations. It is compatible with all major industrial communications protocols and can provide connectivity to any local or cloud server.